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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,893	09/21/2001	Jarmo Makinen	4925-135PUS	6005

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Michael C. Stuart
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EXAMINER

HAN, CLEMENCE S

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/913,893

Applicant(s)

MAKINEN, JARMO

Examiner

Clemence Han

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claim 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenzo et al. (US 6,587,444) in view of Papadopoulos et al. (US 5,594,720) and further in view of Magana (US 6,134,227).

Regarding to claim 1, Lenzo teaches a data transmission method of a radio link system between a central station and at least one substation comprising the steps of: transmitting a time division multiplex signal (upper frame in Figure 4B) during a first plurality of time slots at a first frequency (f_d) from the central station B40; and receiving at the central station B40 signals from said at least one substation M40 during a second plurality of time slots at a second frequency (f_u), said second frequency (f_u) being a different frequency than said first frequency (f_d) (Column 5 Line 55-56) and said signals of said at least one substation at said second frequency forming a time division multiple access signal (bottom frame in Figure 4B). Lenzo, however, does not teach reserving at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second

substation, said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used. Papadopoulos teaches reserving at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation (Column 8 Line 3-5, Column 7 Line 11-14), said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used (Column 2 Line 43, Figure 8B). It would have been obvious to one skilled in the art to modify Lenzo to reserve timeslots according to traffic need as taught by Papadopoulos in order to be used in mixed traffic condition (Column 7 Line 9-10). Lenzo in view of Papadopoulos, however, does not teach transmitting and receiving simultaneously. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). It would have been obvious to one skilled in the art to modify Lenzo in view of Papadopoulos to transmit and receive simultaneously as taught by Magana in order to allow greater amounts of information to be communicated (Column 7 Line 9-11).

Regarding to claim 2, Lenzo teaches the central station controls the time slots used for transmission and reception by the substations (Column 7 Line 45-55).

Regarding to claim 3, Lenzo teaches a radio link system, comprising: a central station B40 comprising means for discriminating reception signals from transmission signals on basis of frequency (Column 5 Line 55-56, Figure 4A); and at least one substation M40; wherein the central station B40 is configured so as to transmit a time division multiplex signal (upper frame in Figure 4B) during a first plurality of time slots at a first frequency (f_d) and receive a time division multiplex access signals (bottom frame in Figure 4B) during a second plurality of time slots at a second frequency (f_u); wherein the at least one substation is configured so as to receive signals at said first frequency (f_d) during the first plurality of time slots and said at least one substation is arranged to transmit signals at said second frequency (f_u) during the second plurality of time slots, said second frequency being a different frequency than said first frequency and said signals transmitted by said at least one substation at said second frequency being arranged to form said time division multiple access signal (Column 6 Line 8-12, also see Column 5 Line 67 - Column 6 Line 3). Lenzo, however, does not teach the central station is configured to reserve at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation, said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used.

Papadopoulos teaches the central station is configured to reserve at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation (Column 8 Line 3-5, Column 7 Line 11-14), said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used (Column 2 Line 43, Figure 8B). It would have been obvious to one skilled in the art to modify Lenzo to reserve timeslots according to traffic need as taught by Papadopoulos in order to be used in mixed traffic condition (Column 7 Line 9-10). Lenzo in view of Papadopoulos, however, does not teach transmitting and receiving simultaneously. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). It would have been obvious to one skilled in the art to modify Lenzo in view of Papadopoulos to transmit and receive simultaneously as taught by Magana in order to allow greater amounts of information to be communicated (Column 7 Line 9-11).

Regarding to claim 4, Lenzo teaches the central station is configured to select said first and second plurality of time slots (Column 7 Line 45-55).

Regarding to claim 5-9, Lenzo teaches a wireless communication system 100 (Figure 1). Lenzo, however, does not explicitly teach a specific system. A GSM mobile communication system, a UMTS mobile communication system, a

broadband data transmission system, a LMDS system and a HiperAccess system are all well known in the art wireless communication system. It would have been obvious to one skilled in the art to modify Lenzo to be used in a specific system as a design choice.

Regarding to claim 10, Papadopoulos teaches uplink and downlink time slots allocated according to traffic needs (Column 8 Line 3-5, Column 7 Line 11-14).

Regarding to claim 11, Papadopoulos teaches uplink and downlink time slots allocated according to traffic needs (Column 8 Line 3-5, Column 7 Line 11-14).

Regarding to claim 12, Lenzo teaches an apparatus for data transmission, comprising: a transmitter unit arranged to transmit a time division multiplex signal (upper frame in Figure 4B) during a first plurality of time slots at a first frequency (f_d); and a receiver unit arranged to receive signals from at one substation M40 during a second plurality of time slots at a second frequency (f_u), said second frequency (f_u) being a different frequency than said first frequency (f_d) (Column 5 Line 55-56) and said signals of said at least one substation at said second frequency forming a time division multiple access signal (bottom frame in Figure 4B). Lenzo, however, does not teach a processing unit arranged to reserve at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one

second substation, said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used. Papadopoulos teaches a processing unit arranged to reserve at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation (Column 8 Line 3-5, Column 7 Line 11-14), said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used (Column 2 Line 43, Figure 8B). It would have been obvious to one skilled in the art to modify Lenzo to reserve timeslots according to traffic need as taught by Papadopoulos in order to be used in mixed traffic condition (Column 7 Line 9-10). Lenzo in view of Papadopoulos, however, does not teach transmitting and receiving simultaneously. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). It would have been obvious to one skilled in the art to modify Lenzo in view of Papadopoulos to transmit and receive simultaneously as taught by Magana in order to allow greater amounts of information to be communicated (Column 7 Line 9-11).

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenzo et al. in view of Magana.

Regarding to claim 13, Lenzo teaches a data transmission method of a radio link system between a central station and at least one substation comprising the steps of: transmitting a time division multiplex signal (upper frame in Figure 4B) during a first plurality of time slots at a first frequency (f_d) from the central station B40; and receiving at the central station B40 signals from said at least one substation M40 during a second plurality of time slots at a second frequency (f_u), said second frequency (f_u) being a different frequency than said first frequency (f_d) (Column 5 Line 55-56) and said signals of said at least one substation at said second frequency forming a time division multiple access signal (bottom frame in Figure 4B). Lenzo, however, does not teach transmitting and receiving simultaneously. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). It would have been obvious to one skilled in the art to modify Lenzo to transmit and receive simultaneously as taught by Magana in order to allow greater amounts of information to be communicated (Column 7 Line 9-11).

Response to Arguments

4. Applicant's arguments with respect to claim 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Friday 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


C. H.

Clemence Han

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Examiner
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